

Amendments to the claims:

1. (Cancelled)
2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (Cancelled)
6. (Cancelled)
7. (Cancelled)

8. (Currently amended) A high throughput liquid chromatography system comprising:

a plurality of separation columns containing stationary phase material and adapted to perform a plurality of parallel chromatographic separations;

a plurality of flow-through detection regions in fluid communication with the plurality of separation columns, wherein each detection region of the plurality of detection regions has a flow axis;

a common radiation source for emitting radiation, wherein at least a portion of the radiation is transmitted into each detection region of the plurality of detection regions substantially coaxially with the flow axis of each detection region of the plurality of detection regions;

a wavelength selection element disposed between the common radiation source and the plurality of detection regions;

a multi-channel detector in sensory communication with each detection region of the plurality of detection regions; and

The system of claim 7 wherein the at least one optical conduit comprises a plurality of fiber optic conduits disposed between the wavelength selection element and the plurality of detection regions for transmitting radiation emitted from the radiation source to the plurality of detection regions.

9. (Currently amended) The system of claim [[7]] 8, further comprising a plurality of flow cells, wherein each detection region of the plurality of detection regions is disposed within a different flow cell of the plurality of flow cells.

10. **(Original)** The system of claim 9, further comprising a plurality of capillary conduits disposed between, and in fluid communication with, the plurality of separation columns and the plurality of flow cells.
11. **(Currently amended)** The system of claim [[1]] 8 wherein:
each detection region of the plurality of detection regions includes a fluid flow channel along the flow axis;
each fluid flow channel has a length and a width; and
the length is greater than the width.
12. **(Currently amended)** The system of claim [[1]] 8 wherein each detection region of the plurality of detection regions includes a fluid flow channel along the flow axis, and each fluid flow channel has a length of at least about two millimeters.
13. **(Currently amended)** The system of claim [[1]] 8 wherein the radiation source comprises a broadband emission UV source.
14. **(Original)** The system of claim 13 wherein the broadband emission UV source comprises a deuterium lamp or an arc lamp.
15. **(Currently amended)** A high throughput liquid chromatography system comprising:
a plurality of separation columns containing stationary phase material and adapted to perform a plurality of parallel chromatographic separations;
a plurality of flow-through detection regions in fluid communication with the plurality of separation columns, wherein each detection region of the plurality of detection regions has a flow axis;
a common radiation source for emitting radiation, wherein at least a portion of the radiation is transmitted into each detection region of the plurality of detection regions substantially coaxially with the flow axis of each detection region of the plurality of detection regions;

~~The system of claim 1 wherein the a wavelength selection element comprises~~
comprising a plurality of discrete wavelength filters disposed between the common radiation
source and the plurality of detection regions; and

a multi-channel detector in sensory communication with each detection region of the
plurality of detection regions.

16. **(Currently amended)** A high throughput liquid chromatography system
comprising:

a plurality of separation columns containing stationary phase material and adapted
to perform a plurality of parallel chromatographic separations;

a plurality of flow-through detection regions in fluid communication with the plurality
of separation columns, wherein each detection region of the plurality of detection regions
has a flow axis;

a common radiation source for emitting radiation, wherein at least a portion of the
radiation is transmitted into each detection region of the plurality of detection regions
substantially coaxially with the flow axis of each detection region of the plurality of detection
regions;

~~The system of claim 1 wherein the a wavelength selection element comprises~~
comprising a plurality of monochromators disposed between the common radiation source
and the plurality of detection regions; and

a multi-channel detector in sensory communication with each detection region of the
plurality of detection regions.

17. **(Currently amended)** A high throughput liquid chromatography system
comprising:

a plurality of separation columns containing stationary phase material and adapted
to perform a plurality of parallel chromatographic separations;

a plurality of flow-through detection regions in fluid communication with the plurality
of separation columns, wherein each detection region of the plurality of detection regions
has a flow axis;

a common radiation source for emitting radiation, wherein at least a portion of the
radiation is transmitted into each detection region of the plurality of detection regions

substantially coaxially with the flow axis of each detection region of the plurality of detection regions;

~~The system of claim 1 wherein the~~ a wavelength selection element comprises comprising a plurality of wavelength dispersion elements disposed between the common radiation source and the plurality of detection regions; and

a multi-channel detector in sensory communication with each detection region of the plurality of detection regions.

18. **(Currently amended)** A high throughput liquid chromatography system comprising:

a plurality of separation columns containing stationary phase material and adapted to perform a plurality of parallel chromatographic separations;

a plurality of flow-through detection regions in fluid communication with the plurality of separation columns, wherein each detection region of the plurality of detection regions has a flow axis;

a common radiation source for emitting radiation, wherein at least a portion of the radiation is transmitted into each detection region of the plurality of detection regions substantially coaxially with the flow axis of each detection region of the plurality of detection regions;

a wavelength selection element disposed between the common radiation source and the plurality of detection regions;

a multi-channel detector in sensory communication with each detection region of the plurality of detection regions; and

~~The system of claim 1, further comprising~~ a photomask disposed between the wavelength selection element and the multi-channel detector.

19. **(Cancelled)**

20. **(Cancelled)**

21. **(Cancelled)**

22. **(Currently amended)** A high throughput liquid chromatography system comprising:

a plurality of separation columns containing stationary phase material and adapted to perform a plurality of parallel chromatographic separations;

a plurality of flow-through detection regions in fluid communication with the plurality of separation columns, wherein each detection region of the plurality of detection regions has a flow axis;

a common radiation source for emitting radiation, wherein at least a portion of the radiation is transmitted into each detection region of the plurality of detection regions substantially coaxially with the flow axis of each detection region of the plurality of detection regions;

a wavelength selection element disposed between the common radiation source and the plurality of detection regions; and

a multi-channel detector in sensory communication with each detection region of the plurality of detection regions. ~~The system of claim 4~~ wherein the multi-channel detector includes a reference channel used to correct signals received from at least one other channel of the multi-channel detector.

23. **(Currently amended)** The system of claim ~~[[1]]~~ 8 wherein the plurality of separation columns includes at least ten separation columns, the plurality of detection regions includes at least ten detection regions, and the multi-channel detector includes at least ten channels.

24. **(Cancelled)**

25. **(Cancelled)**

26. **(Cancelled)**

27. **(Cancelled)**

28. **(Cancelled)**

29. **(Cancelled)**

30. **(Cancelled)**

31. **(Cancelled)**

32. **(Cancelled)**

33. **(Cancelled)**

34. (Cancelled)

35. (Currently amended) A high throughput liquid chromatography system comprising:

a plurality of separation columns containing stationary phase material and adapted to perform a plurality of parallel chromatographic separations;

a plurality of flow-through detection regions in fluid communication with the plurality of separation columns, each detection region of the plurality of detection regions having a flow axis;

a common radiation source;

The system of claim 25 wherein the plurality of optical conduits comprises a plurality of fiber optic conduits coupled to the radiation source and the plurality of detection regions, each fiber optic conduit of the plurality of fiber optic conduits being associated with a different detection region of the plurality of detection regions and transmitting radiation to its associated detection region along the flow axis;

a wavelength selection element disposed between the common radiation source and the plurality of fiber optic conduits; and

a multi-channel detector in sensory communication with each detection region of the plurality of detection regions.

36. (Cancelled)

37. (Cancelled)

38. (Cancelled)

39. (Cancelled)

40. (Cancelled)

41. (Cancelled)

42. (Currently amended) A high throughput liquid chromatography system comprising:

a plurality of separation columns containing stationary phase material and adapted to perform a plurality of parallel chromatographic separations;

a plurality of flow-through detection regions in fluid communication with the plurality of separation columns, each detection region of the plurality of detection regions having a flow axis;

a common radiation source;

a plurality of optical conduits coupled to the radiation source and the plurality of detection regions, each optical conduit of the plurality of optical conduits being associated with a different detection region of the plurality of detection regions and transmitting radiation to its associated detection region along the flow axis;

The system of claim 25 wherein the a wavelength selection element comprises comprising a plurality of discrete wavelength filters disposed between the common radiation source and the plurality of optical conduits; and

a multi-channel detector in sensory communication with each detection region of the plurality of detection regions.

43. **(Currently amended)** A high throughput liquid chromatography system comprising:

a plurality of separation columns containing stationary phase material and adapted to perform a plurality of parallel chromatographic separations;

a plurality of flow-through detection regions in fluid communication with the plurality of separation columns, each detection region of the plurality of detection regions having a flow axis;

a common radiation source;

a plurality of optical conduits coupled to the radiation source and the plurality of detection regions, each optical conduit of the plurality of optical conduits being associated with a different detection region of the plurality of detection regions and transmitting radiation to its associated detection region along the flow axis;

The system of claim 25 wherein the a wavelength selection element comprises comprising a plurality of wavelength dispersion elements disposed between the common radiation source and the plurality of optical conduits; and

a multi-channel detector in sensory communication with each detection region of the plurality of detection regions.

44. (Currently amended) A high throughput liquid chromatography system comprising:

a plurality of separation columns containing stationary phase material and adapted to perform a plurality of parallel chromatographic separations;

a plurality of flow-through detection regions in fluid communication with the plurality of separation columns, each detection region of the plurality of detection regions having a flow axis;

a common radiation source;

a plurality of optical conduits coupled to the radiation source and the plurality of detection regions, each optical conduit of the plurality of optical conduits being associated with a different detection region of the plurality of detection regions and transmitting radiation to its associated detection region along the flow axis;

The system of claim 25 wherein the a wavelength selection element comprises comprising a plurality of monochromators disposed between the common radiation source and the plurality of optical conduits; and

a multi-channel detector in sensory communication with each detection region of the plurality of detection regions.

45. (Currently amended) A high throughput liquid chromatography system comprising:

a plurality of separation columns containing stationary phase material and adapted to perform a plurality of parallel chromatographic separations;

a plurality of flow-through detection regions in fluid communication with the plurality of separation columns, each detection region of the plurality of detection regions having a flow axis;

a common radiation source;

a plurality of optical conduits coupled to the radiation source and the plurality of detection regions, each optical conduit of the plurality of optical conduits being associated with a different detection region of the plurality of detection regions and transmitting radiation to its associated detection region along the flow axis;

a wavelength selection element disposed between the common radiation source and the plurality of optical conduits;

a multi-channel detector in sensory communication with each detection region of the plurality of detection regions; and

~~The system of claim 25, further comprising a photomask disposed between the wavelength selection element and the multi-channel detector.~~

46. (Cancelled)

47. (Cancelled)

48. (Cancelled)

49. (Currently amended) A high throughput liquid chromatography system comprising:

a plurality of separation columns containing stationary phase material and adapted to perform a plurality of parallel chromatographic separations;

a plurality of flow-through detection regions in fluid communication with the plurality of separation columns, each detection region of the plurality of detection regions having a flow axis;

a common radiation source;

a plurality of optical conduits coupled to the radiation source and the plurality of detection regions, each optical conduit of the plurality of optical conduits being associated with a different detection region of the plurality of detection regions and transmitting radiation to its associated detection region along the flow axis;

a wavelength selection element disposed between the common radiation source and the plurality of optical conduits; and

a multi-channel detector in sensory communication with each detection region of the plurality of detection regions. ~~The system of claim 25~~ wherein the multi-channel detector includes a reference channel used to correct signals received from at least one other channel of the multi-channel detector.

50. (Cancelled)

51. (Cancelled)

52. (New) The system of claim 8 wherein each separation column of the plurality of separation columns is microfluidic.

53. **(New)** The system of claim 8 wherein the plurality of microfluidic separation columns is integrated into a unitary device.
54. **(New)** The system of claim 53 wherein the plurality of detection regions is disposed within the unitary device.
55. **(New)** The system of claim 53 wherein the unitary device comprises a plurality of substantially planar device layers.
56. **(New)** The system of claim 54 wherein the plurality of substantially planar device layers includes a plurality of stencil layers.
57. **(New)** The system of claim 54 wherein the plurality of device layers comprises adhesiveless polymer layers that are interpenetrably bound together.
58. **(New)** The system of claim 57 wherein the polymer comprises a polyolefin.
59. **(New)** The system of claim 8 wherein the plurality of separation columns includes at least ten separation columns, the plurality of detection regions includes at least ten detection regions, and the multi-channel detector includes at least ten channels
60. **(New)** The system of claim 52, further comprising:
a common source of pressurized mobile phase; and
a fluidic distribution network in fluid communication with the mobile phase source and with each separation column of the plurality of separation columns.